

Joint Vision 2010:

**America's Military—
Preparing for
Tomorrow**



Joint Vision 2010 is the conceptual template for how the Armed Forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint warfighting. Focused on achieving dominance across the range of military operations through the application of new operational concepts, this template provides a common direction for the services in developing unique capabilities within a joint framework of doctrine and programs as we prepare to meet an uncertain and challenging future.

The nature of modern warfare demands that we fight as a joint team. This was important yesterday, it is essential today, and it will be even more imperative tomorrow. JV 2010 provides an operationally based template for the evolution of the Armed Forces for a challenging and uncertain future. It must become a benchmark for service and unified command visions.

—JOHN M. SHALIKASHVILI
Chairman of the Joint Chiefs of Staff

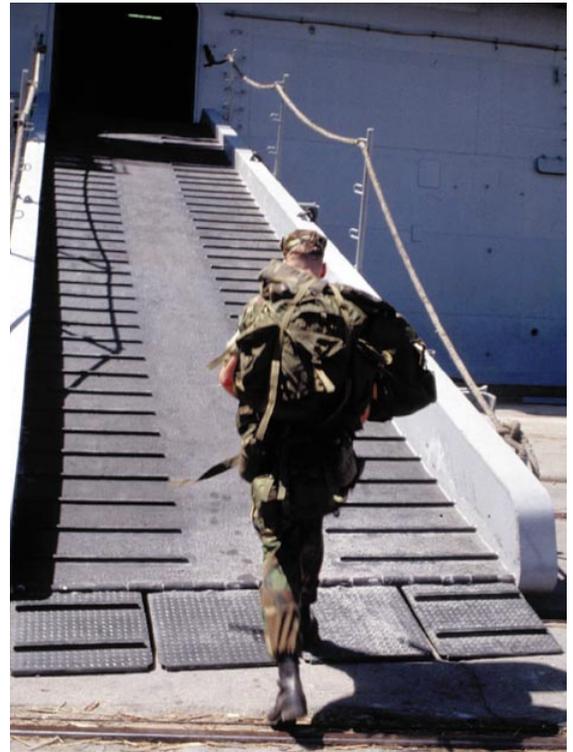
JV 2010 begins by addressing the expected continuities and changes in the strategic environment, including technology trends and implications for the Armed Forces. It recognizes the crucial importance of our current high quality, highly trained forces and provides the basis for their further enhancement by prescribing how we will fight in the early 21st century.

This vision of future warfighting embodies the improved intelligence and command and control available in the information age and goes on to develop four operational concepts: dominant maneuver, precision engagement, full dimensional protection, and focused logistics.

Each of the operational concepts incorporates our core strengths of high quality people and information-age technological advances, builds on proven competencies, and focuses development of future joint capabilities. Together, the application of these four concepts by robust high quality forces will provide America with the capability to dominate an opponent across the range of military operations. This *full spectrum dominance* will be the key characteristic we seek for the Armed Forces in the 21st century.

Joint Vision 2010 then examines six critical elements required to transform the operational concepts into joint capabilities: people, leadership, doctrine, education and training, organizational structure, and materiel. In its conclusion, *JV 2010* assesses the challenges and opportunities in moving toward its implementation.

This vision draws on our most fundamental source of strength—our people. People are the Armed Forces; at the end of the day, success in war or in peace will rest ultimately on the men and women of the Armed Forces.



U.S. Navy (Timothy Osborne)

The skills and vitality of our people will also provide the driving force for shaping change. Channeling our strengths with this vision, we will move toward a common goal: a joint force—persuasive in peace, decisive in war, preeminent in any form of conflict.

THREADS OF CONTINUITY

As we build forces to this joint vision, there will be strong threads of continuity with the contemporary strategic and operational environment. Among these threads are American goals and interests, as well as the missions, tasks, strategic concepts, and quality of the Armed Forces.

Goals and Interests

Enduring goals include protecting the lives and safety of Americans both at home and abroad; maintaining the political freedom and national independence of the United States with its values, institutions, and territory intact; and providing for the well-being and prosperity of the Nation and its people.

These goals, in turn, generate interests that must be protected and advanced. Fundamental interests are enhancing U.S. security, promoting prosperity at home, and promoting democracy abroad.

The United States has undertaken foreign and security policies aimed at securing these interests. Ensuring strong relations with our allies, protecting rights of transit on the high seas, and enlarging the community of free market democracies are examples of policies we are likely to continue to pursue in the years ahead. On the whole, there is likely to be far more continuity than change in these interests and policies.



Missions, Tasks, and Strategic Concepts

To protect vital national interests we require strong forces, which are organized, trained, and equipped to fight and win against any adversary at any level of conflict. Concurrently, we must also be able to employ these forces in operations other than war to assist in the pursuit of other important interests.

The primary task of the Armed Forces will remain to deter conflict—but, should deterrence fail, to fight and win the Nation's wars. In addition, we should expect to participate in a broad range of deterrent, conflict prevention, and peacetime activities. Further, our history, strategy, and recent experience suggest that we will usually work in concert with friends and allies in almost all operations.

America's strategic nuclear deterrent, along with appropriate national level detection and defensive capabilities, will likely remain at the core of national security. However, the bulk of our forces will be engaged in or training for worldwide military operations. In these operations we will largely draw upon conventional warfighting capabilities—we will fight if we must—but will also use these same capabilities to deter, contain conflict, fight and win, or otherwise promote American interests and values.

To ensure we can accomplish these tasks, power projection, enabled by overseas presence, will likely remain the fundamental strategic concept of a future force. We will remain largely a force based in the continental United States (CONUS). However, permanently stationed overseas forces, infrastructure and equipment, temporarily deployed forces, and interaction between U.S. and foreign militaries demonstrate commitments, strengthen our military capabilities, and enhance the organization of coalitions and multinational operations to deter or defeat aggression. Power projection from the United States, achieved through rapid strategic mobility, will enable the timely response critical to deterrence and warfighting capabilities. Overseas presence and highly mobile forces will both remain essential to future operations.

Quality of the Force

Currently, our Armed Forces are the best trained, best equipped, and most ready force in the world. The quality of our people is unequalled at all levels of the chain of command. Leaders are developed through well-conceived, intensive, and long-term programs. Equipment is first-rate and it is sustainable in all operations. Together, personnel, leadership, and equipment are molded into exceptionally able forces through stressful training, which closely approximates wartime conditions and requirements.

Since the mid-1980s, this high quality has been the essence of the Armed Forces. Military operations are planned knowing that leaders truly understand the requirements, that the equipment is operable and safe, and that the men and women at the cutting edge have the skills and character to execute their tasks successfully.

However, this quality force has been achieved only at great expense and effort. It has required the creation of institutions and procedures, sharpened over more than two decades of experience, to develop the Armed Forces in the most effective, efficient manner possible. These institutions and procedures, and the high quality forces they have produced, remain at the very center of *Joint Vision 2010*.



II MEF Combat Center (C. D. Clark)

Attracting people with intellectual tools, physical skills, and motivation to serve effectively in the military was foremost among the requirements for building a professional, robust, and ready force. In the late 1970s, over 15 percent of all enlistees scored in the lowest category for military qualification examinations. Today, less than 1 percent are in that category and over 90 percent of enlistees have graduated from high school. The combination of careful targeting of requirements, recruiting incentives, quality of life initiatives, and challenging opportunities has been very effective in attracting the personnel needed to sustain a quality force.

Retention of highly trained servicemembers in sufficient numbers has also been a key requirement, and we intend to sustain these efforts. Our first-term reenlistment rates have risen by 10 percent over the last fifteen years. Higher retention is the result of a committed effort by top leadership throughout the government toward raising career satisfaction, improving command climates, keeping pay competitive and benefits stable, maintaining time at home and deployed at an acceptable balance, and focusing on quality of life initiatives.

Another element of success has been effective leadership development. From deliberate and intensive processes involving institutional, on-the-job, and self-study methods, the men and women of the Armed Forces gain the skills, knowledge, and attitudes needed to accomplish their required tasks across the range of military operations. These formal development processes are designed to balance timing, costs, and operational requirements at each level of leadership. We will retain those innovative processes to ensure that we maintain the best possible leadership for the Armed Forces.

Realistic and stressful training has been the primary way to keep readiness high and prepare

us to face the challenges of combat. Such training, consisting of carefully balanced programs of individual, crew, and larger organizational training and assessments, is central to training the way we will fight. From individual or crew mission simulators, through full-blown field exercises at home or abroad, realistic, evaluated training is and must remain our best combat multiplier. Joint, coalition, and combined training and exercises have improved interoperability and understanding of the strengths of each service as well as allies and coalition partners. From the individual warfighter to large multinational forces, this systematic approach has enabled our men and women to hone their skills many times before ever having to perform actual combat missions. These training innovations must be sustained.

Today, our highly trained, quality force has the tools to perform its warfighting tasks. Just 15 years ago, our forces were less well equipped, spare parts inventories were critically short, and sustainability was low. Since then, we have modernized the force and ensured that we procured the parts and provided the training required to take full advantage of this new equipment.

Technologically superior equipment has been critical to the success of our forces in combat. This first-rate equipment, when combined with top quality forces, has been a key element of our continuing operational successes. We must continue to ensure our soldiers, sailors, marines, and airmen are fully capable of fulfilling their required tasks with equipment that is engineered to provide superior mission performance as well as safety and reliability. We must maintain a careful balance between equipping and sustaining our forces and between tooth and tail in force structure. We must also work to assure an efficient, effective support structure and resources.

DYNAMIC CHANGES

Accelerating rates of change will make the future environment more unpredictable and less stable, presenting the Armed Forces with a wide range of plausible futures. Whatever direction global change ultimately takes, it will affect how we think about and conduct joint and multinational operations in the 21st century. How we respond to dynamic changes concerning potential adversaries, technological advances and their implications, and the emerging importance for information superiority will dramatically impact how well the Armed Forces can perform its duties in 2010.



USS America (Robert McRoy)

The Imperative of Jointness

The Armed Forces are smaller than they have been in over 40 years, and we have decreased the percentage of forces permanently stationed overseas. Faced with flat budgets and increasingly costly readiness and modernization, we should not expect a return to the larger active forces of the Cold War period.

The American people will continue to expect us to win in any engagement, but they will also expect us to be more efficient in protecting lives and resources while accomplishing missions successfully. Commanders will be expected to reduce the costs and adverse effects of military operations, from environmental disruption in training to collateral damage in combat. Risks and expenditures will be even more closely scrutinized than they are at present.

Simply to retain our effectiveness with less redundancy, we will need to wring every ounce of capability from every available source. That outcome can only be accomplished through a more seamless integration of service capabilities. To achieve this integration while conducting military operations we must be fully joint: institutionally, organizationally, intellectually, and technically. Future commanders must be able to visualize and create the best fit of available forces

needed to produce the immediate effects and achieve the desired results.

Multinational Operations

It is not enough just to be joint when conducting future operations. We must find the most effective methods for integrating and improving interoperability with allied and coalition partners. Although the Armed Forces will maintain decisive unilateral strength, we expect to work in concert with allied and coalition forces in nearly all future operations, and increasingly, our procedures, programs, and planning must recognize this reality.

Potential Adversaries

There will continue to be states or groups that oppose or threaten American interests and values or those of friends and allies. Our recognition of these threats and challenges will continue to drive national security efforts.

Greater global interaction will strongly influence the nature of future threats. Wider access to advanced technology along with modern weaponry, including weapons of mass destruction (WMD), and the requisite skills to maintain and employ it, will increase the number of actors with sufficient military potential to upset existing regional balances of power.

Modern systems are sufficiently powerful that smaller numbers can dramatically alter the threats facing us. A number of potential adversaries may acquire the military hardware to make themselves distinctly more dangerous.

Our most vexing future adversary may be one who can use technology to make rapid improvements in its military capabilities that provide asymmetrical counters to U.S. military strengths, including information technologies. Alternatively, the high leverage associated with modern systems means that significant improvements in military capabilities can occur very rapidly, outrunning the pace of compensating political or military countermeasures.

Application of these technologies against us may also prove surprising. Adversaries will have an independent will, some knowledge of our capabilities, and a desire to avoid our strengths and exploit vulnerabilities. We anticipate the probability of facing technological or operational surprise will increase in the period ahead.

In sum, the United States must prepare to face a wider range of threats, emerging unpredictably, employing varying combinations of technology, and challenging us at varying levels of intensity.



U.S. Air Force (Russ Pottinen)

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Advancing Technology Trends

This era will be one of accelerating technological change. Critical advances will have enormous impact on all military forces. Successful adaptation of new and improved technologies may provide great increases in specific capabilities. Conversely, failure to understand and adapt could lead today's militaries into premature obsolescence and greatly increase the risks that such forces will be incapable of effective operations against forces with high technology.

Long-range precision capability, combined with a wide range of delivery systems, is emerging as a key factor in future warfare. Technological advances will continue the trend toward improved precision. Global positioning systems, high-energy research, electromagnetic technology, and enhanced stand-off capabilities will provide increased accuracy and a wider range of delivery options. These capabilities will increase the combat power available for use against selected objectives, resulting in enhanced economy of force and a higher tempo of operations.

The ability to produce a broader range of potential weapons effects, from less-lethal to hard target kill, from sensor-fused to directed energy

weapons, will further enhance precision capability. Advances in target effects technologies will be integrated into existing weapons and give commanders greater flexibility. These improvements will result in increasingly discrete and precise capabilities, which can achieve optimum results in both combat and other operations.

Advances in low observable technologies and the ability to mask friendly forces will also continue over the next 15 years. Signature reduction will enhance the ability to engage adversaries anywhere in the battlespace and improve the survivability of forces who employ it. Stealth will strengthen the ability to accomplish surprise, reduce overall force requirements in many operations, and make forces less visible to an unsophisticated or disoriented adversary. Micro-miniaturization will also promote signature reduction and greatly increase the capabilities available for individuals and small units. Concurrently, multispectral sensing, automated target recognition, and other advances will enhance the detectability of targets across the battlespace, improving detection ranges, turning night into day for some classes of operations, reducing the risk of fratricide and further accelerating operational tempo.

Improvements in information and systems integration technologies will also significantly impact future military operations by providing decisionmakers with accurate information in a timely manner. Information technology will improve the ability to see, prioritize, assign, and assess information. The fusion of all-source intelligence with the fluid integration of sensors, platforms, command organizations, and logistic support centers will allow a greater number of operational tasks to be accomplished faster. Advances in computer processing, precise global positioning, and telecommunications will provide the capability to determine accurate locations of friendly and enemy forces, as well as to collect, process, and distribute relevant data to thousands of locations.

Forces harnessing the capabilities potentially available from this system of systems will gain *dominant battlespace awareness*, an interactive picture which will yield much more accurate assessments of friendly and enemy operations within the area of interest. Although this will not eliminate the fog of war, dominant battlespace awareness will improve situational awareness, decrease response time, and make the battlespace considerably more transparent to those who achieve it.



U.S. Navy (F. E. Zip/Zimmerman)

Implications of Technological Advances

The combination of technology trends will provide an order of magnitude improvement in lethality. Commanders will be able to attack targets successfully with fewer platforms and less ordnance while achieving objectives more rapidly and with reduced risk. Individual warfighters will

be empowered as never before, with an array of detection, targeting, and communications equipment that will greatly magnify the power of small units. Strategically, this improvement will enable more rapid power projection and reduced logistics tails. Operationally, within the theater, these capabilities will mean a more rapid transition from deployment to full operational

capability. As a result, we will improve the capability for rapid, worldwide deployment while becoming even more tactically mobile and lethal.

The implications of this increased lethality for overall force structure requirements are unclear. Given current technology, force structure today is adequate to meet a full range of global needs, but barely so. While these prospective improvements in lethality clearly offer promise of reducing the number of platforms and amount of ordnance required to destroy targets, many military missions will require occupation of the ground and intensive physical presence. For these missions the promises of technology are less certain, especially in environments such as cities or jungles.

more lethal battlespace will increase the importance of stealth, mobility, dispersion, and pursuit of a higher operational tempo

During all operations, advanced technology in the hands of an adversary will increase the importance of force protection at all echelons. Any efficiencies garnered by offensive systems must be underwritten by appropriate redundancies to safeguard against unanticipated technological, strategic, or operational surprise.

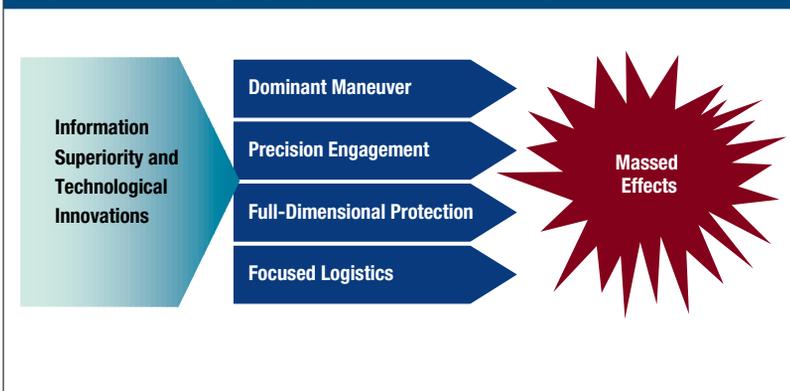
Adaptations to this increasingly lethal battlespace will be warranted. These adaptations are likely to take the forms of increased stealth, mobility, dispersion, and pursuit of a higher tempo of operations among elements within the battlespace.

To cope with more lethal systems and improved targeting, our forces will require stealth and other means of passive protection, along with mobility superior to enemy ability to retarget or react to our forces. Increased stealth will reduce an enemy's ability to target our forces. Increased dispersion and

mobility are possible offensively because each platform or individual warfighter carries higher lethality and has greater reach. Defensively, dispersion and higher tempo complicate enemy targeting and reduce the effectiveness of area attack and area denial weaponry such as weapons of mass destruction (WMD). The capability to control the tempo of operations and, if necessary, sustain a tempo faster than an enemy will also enable our forces to seize and maintain the initiative during military operations.

Greater mobility and increased dispersion will, in turn, require additional communications and coordination capabilities since the synchronization of these dispersed elements will become even more important. Fortunately, the technology for this improved systems integration is at hand.

The implications of improved systems integration are both profound and complex. New technologies will allow increased capability at lower echelons to control more lethal forces over larger areas, thus leveraging skills and initiative of individuals and small units. These capabilities could empower a degree of independent maneuver, planning, and coordination at lower echelons, which were normally exercised by more senior commanders in the past. Concurrently, commanders at higher echelons will use these technologies to reduce the friction of war and apply precise centralized control when and where appropriate.

Figure 1: Emerging Operational Concepts

Even for higher level commanders, the accelerated operational tempo and greater integration requirements will likely create a more stressful, faster moving decision environment. Real-time information will likely drive parallel, not sequential, planning and real-time, not prearranged, decisionmaking. The optimal balance between centralized and decentralized command and control will have to be carefully developed as systems are brought into the inventories.

Emerging Importance of Information Superiority

Throughout history, gathering, exploiting, and protecting information have been critical in command, control, and intelligence. The unqualified importance of information will not change in 2010. What will differ is the increased access to information and improvements in the speed and accuracy of prioritizing and transferring data brought about by advances in technology. While the friction and fog of war can never be

eliminated, new technology promises to mitigate their impact.

Sustaining the responsive, high quality data processing and information needed for joint military operations will require more than just an edge over an adversary. We must have information superiority: the capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.

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Information superiority will require offensive and defensive information warfare (IW). Offensive information warfare will degrade or exploit adversary collection or use of information. It will include both traditional methods, such as a precision attack to destroy adversary command and control capability, and nontraditional methods, such as electronic intrusion into an information and control network to convince, confuse, or deceive enemy military decisionmakers.

There should be no misunderstanding that our effort to achieve and maintain information superiority will also invite resourceful attacks on information systems. *Defensive information warfare* to protect the ability to conduct information operations will be one of the biggest challenges in the period ahead. Traditional defensive IW operations include physical security measures and encryption. Nontraditional actions will range from antivirus protection to innovative methods of secure data transmission. In addition, increased strategic level programs will be required in this critical area.

CONDUCT OF JOINT OPERATIONS

Our forces have been largely organized, trained, and equipped to defeat military forces of potential adversaries. Direct combat against enemy forces is the most demanding and complex set of requirements we have faced. Other operations, from humanitarian assistance in peacetime to peace operations in a near hostile environment, have proved to be possible using forces optimized for wartime effectiveness.

Technological advances will magnify the advantages provided by our high quality force. The promise provided by these technologies is best viewed from an operational perspective. In the past, capabilities often required us to physically mass forces to neutralize enemy power. The time needed to build and employ massed combat forces, including platforms, weapons, and associated logistics, required to achieve success resulted in military operations that were largely sequential in nature and tactics which too often saw land, maritime, and air forces massed in time and space.

By 2010, we should be able to change how we conduct the most intense joint operations. Instead of relying upon massed forces and sequential operations, we will achieve massed effects in other ways. Information superiority and advances in technology will enable us to achieve desired effects through the tailored application of joint combat power. Higher lethality weapons will allow us to conduct attacks concurrently that formerly required massed assets, applied in a sequential manner. With precision targeting and



U.S. Air Force (Comrad M. Evers)

longer range systems, commanders can achieve necessary destruction or suppression of enemy forces with fewer systems, thereby reducing the need for time-consuming and risky massing of people and equipment. Improved command and control, based on fused, all-source, real-time intelligence will reduce the need to assemble maneuver formations days and hours in advance of attacks. Providing improved targeting information directly to the most effective weapon system will potentially reduce traditional force requirements at the point of main effort.

All of this suggests that we will be increasingly able to accomplish the effects of mass—the necessary concentration of combat power at the decisive time and place—with less need to mass forces physically than in the past.

This will enhance combat capabilities against opposing military forces. To be sure, this will not obviate the ultimate need for “boots on the ground” in many operations, nor will it relieve servicemen and women of the need to be physically present at decisive points in battle or in other operations, or to be exposed to conditions of great danger and hardship.

However, in all operations technological advances and use of information will give our warfighters at the individual, crew, and small unit levels major qualitative advantages over potential adversaries. Our forces will be able to sense dangers sooner. They will have increased awareness of the overall operational environment, including the situation of friendly forces, allowing them to make better decisions more rapidly. They will have an enhanced ability to produce a range of desired effects by bringing together the correct mix of assets at the place and time most favorable

to success. When tied to a more rapid resupply, reinforcement, and reengagement capability, they will be better able to provide the best response at less risk to themselves, based on the mission objectives and circumstances of the battlespace. Whether operating from dispersed locations or in close proximity to each other, the confidence of each warfighter or crew will be bolstered by enhanced connectivity to comrades, supporting elements, and higher commands.

In sum, by 2010 we should be able to enhance the capabilities of our forces through technology. This will, in turn, expand our great advantage: the adaptability, initiative, teamwork, and commitment of our people at every level.

To exploit the enormous potential of technology, we must develop in a systematic manner the full range of required enhancements. This process must begin with a new conceptual framework for operations.

The basis for this framework is found in the improved command, control, and intelligence which can be assured by information superiority. These are the most straightforward applications of much of the new technology; however, the full impact of these technologies is more profound. Enhanced command and control and much improved intelligence, along with other applications of new technology, will transform traditional functions of maneuver, strike, protection, and logistics. These transformations will be so powerful that they become, in effect, new operational concepts: dominant maneuver, precision engagement, full dimensional protection, and focused logistics. These operational concepts will provide our forces with a new conceptual framework.

New Operational Concepts

Dominant maneuver will be the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint land, sea, air, and space forces to accomplish assigned operational tasks. Dominant maneuver will allow our forces to gain a decisive advantage by controlling the breadth, depth, and height of the battlespace.

Through a combination of asymmetric leverage, achieved by positional advantages, as well as decisive speed and tempo, dominant maneuver allows us to apply decisive force to attack enemy centers of gravity at all levels and compels an adversary to either react from a position of disadvantage or quit.



U.S. Air Force

DOD

Dominant maneuver will require forces adept at conducting sustained and synchronized operations from dispersed locations. They must be able to apply overwhelming force in the same medium and create asymmetric advantages by attacking cross-dimensionally, such as air or sea against ground or ground and sea against air defenses. These forces must have the ability to outpace and outmaneuver an enemy. Current systems, enhanced by information superiority, will provide a clearer picture of enemy and friendly locations. Information superiority also will allow joint commanders to coordinate widely dispersed units, receive accurate feedback, and execute more demanding, higher precision requirements. Increasingly lethal direct and indirect fire systems, with longer ranges and more accurate targeting, will increase the punch of these forces as they maneuver.

The tailor-to-task organizational ability will provide the additional advantage of self protection—another key element for successfully achieving dominant maneuver. The combination of seamless operations with reduced buildup time and a smaller, more widely dispersed footprint will make it much more difficult for an adversary to find and attack our forces. Other defensive

measures, low observable technologies, signature reduction, and enhanced deception capabilities will provide similar advantages for protection and improve chances for mission success.

Together, the organizational concept of dominant maneuver is a prescription for more agile, faster moving joint operations, which will combine land, maritime, and air forces more effectively to deliver decisive combat power.

Precision engagement will consist of a system of systems that enables our forces to locate an objective or target, provide responsive command and control, generate the desired effect, assess the level of success, and retain the flexibility to reengage with precision when required. Even from extended ranges, precision engagement will allow us to shape battlespace, enhancing the protection of our forces.

Information operations will tie high fidelity target acquisition, prioritized requirements, and command and control of joint forces within battlespace. This combination will provide a greater assurance of delivering the desired effect, lessen the risk to forces, and minimize collateral damage.

Precision engagement will build on current U.S. advantages in delivery accuracy and low observable technologies. It will use a wide variety of means, including very accurate aerial deliveries or air drops, discriminate weapon strikes, and precise, all-weather stand-off capability. Enhanced



U.S. Navy

jointness will ensure greater commonality between service precision engagement capabilities and provide future joint force commanders with a wider array of responsive, accurate, and flexible options.

Full Dimensional Protection. We must also protect forces from the very technologies that we are exploiting. Unless we provide an adequate measure of protection for our forces, these new operational concepts will be highly vulnerable to disruption. We will achieve this required level of protection through the concept called full dimensional protection. The primary prerequisite for full dimensional protection will be control of the battlespace to ensure forces can maintain freedom of action during deployment, maneuver, and engagement, while providing multi-layered defenses for forces and facilities at all levels. Full dimensional protection will enable effective employment of our forces while degrading opportunities for an enemy. It will be essential, in most cases, for gaining and maintaining the initiative required to execute decisive operations. The concept will be proactive, incorporating both offensive and defensive actions that may extend well into areas of enemy operations.

Full dimensional protection will be built upon information superiority which will provide multi-dimensional awareness and assessment, as well as identification of forces in the battlespace. Information warfare will support this effort by protecting information systems and processes while denying an adversary similar capabilities.

Upon this information base, we will employ a full array of active and passive measures at multiple echelons. Active measures will include battlespace control operations to guarantee the sea, air, space, and information superiority that is needed to gain the degree of control to accomplish the assigned tasks. Active measures will also include an integrated, in-depth theater air and missile defense that will exploit service-unique capabilities to detect, identify, locate, track, and deny enemy attacks on our joint forces.

Passive measures will include the inherent protection provided by information superiority and dispersal to increase warning of attacks. Operational dispersion will further reduce risks to our forces. New sensors and information dissemination systems will be deployed to detect chemical or biological attack at great ranges and provide warning to specific units that may be affected. Enhanced deception and camouflage measures, increased individual and collective protection, and a joint restoration capability against the effects of WMD are also key elements for achieving full dimensional protection.

Most importantly, these active and passive measures will be combined to provide a more seamless joint architecture for force protection, which will leverage the contributions of individual services, systems, and echelons. The result will be improved freedom of action for friendly forces, and better protection at all echelons against precision attack, weapons of mass destruction, and other conventional or nonconventional systems.

Focused Logistics. Each of the preceding concepts relies on our ability to project power with the most capable forces, at the decisive time and place. To optimize all three concepts, logistics must be responsive, flexible, and precise. Focused logistics will be the fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while en route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical level of operations. It will be fully adaptive to the needs of our increasingly dispersed and mobile forces, providing support in hours or days versus weeks. Focused logistics will enable joint forces of the future to be more mobile, versatile, and projectable from anywhere in the world.

Logistic functions will incorporate information technologies to transition from the rigid vertical organizations of the past. Modular and specifically tailored combat service support packages will evolve in response to wide-ranging contingency requirements. Service and defense agencies will work jointly and integrate with the civilian sector, where required, to take advantage of advanced business practices, commercial

U.S. Air Force (Russ Pottanen)



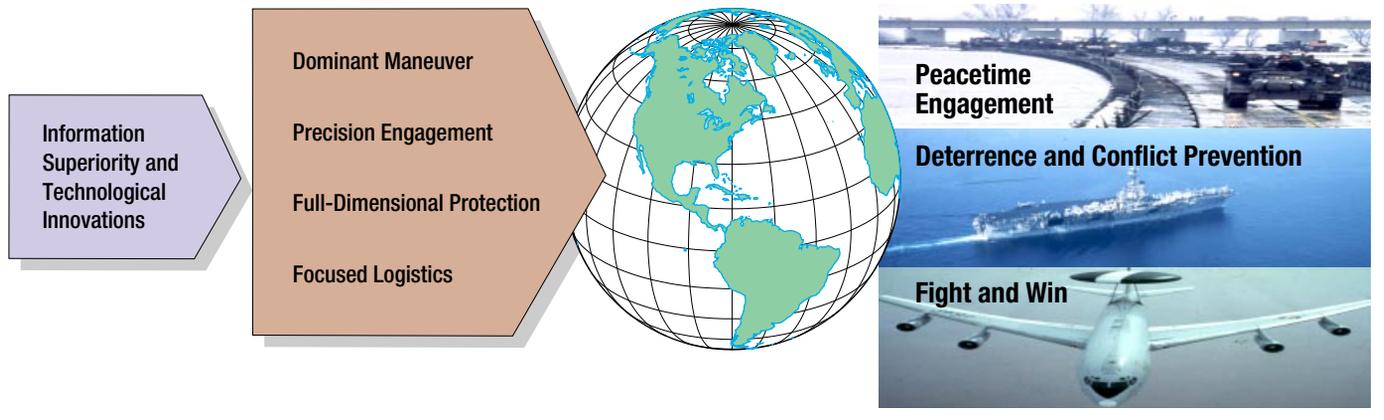
Joint Combat Camera Center (Tony Lambert)



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Figure 2: Full Spectrum Dominance



economies, and global networks. Active and Reserve combat service support capabilities, prepared for complete integration into joint operations, will provide logistic support and sustainment as long as necessary.

Information technologies will enhance airlift, sealift, and pre-positioning capabilities to lighten deployment loads, assist pinpoint logistics delivery systems, and extend the reach and longevity of systems currently in the inventory. The combined impact of these improvements will be a smaller, more capable deployed force. It will require less continuous support with a smaller logistics footprint, decreasing the vulnerability of U.S. logistics lines of communication.

Full Spectrum Dominance. Each of these operational concepts will reinforce the others and will allow us to achieve massed effects in warfare from more dispersed forces. This synergy will greatly enhance our capabilities in high intensity conventional military operations.

However, the synergy of these four concepts transcends intense conventional warfighting. Without overspecialization, the development of these new operational concepts has great potential to fulfill more effectively the full range of tasks assigned to us. That is, taken together these four new concepts will enable us to dominate the full range of military operations from humanitarian assistance, through peace operations, up to and into the highest intensity conflict.

Information superiority will provide a commander with enhanced awareness of his area of responsibility, whether his objective is to close with and engage an adversary or render assistance in a humanitarian operation. Surveillance, reconnaissance, and knowledge of the precise location of dispersed friendly forces to effectively direct their efforts are applicable for all military tasks.

Likewise, the tactical mobility required for dominant maneuver which enables our forces to move rapidly into position to overwhelm an enemy will also allow commanders to place forces in positions of control in counterdrug, counterterrorism, or peacekeeping operations. Precision engagement capabilities designed for warfighting tasks will also enable greater discrimination in the application of force against an emerging threat during peace enforcement operations. Full dimensional protection will allow freedom of action for forces and limit their vulnerability during combat and noncombatant operations. Focused logistics will ensure delivery of the precise amount and types of supplies required for joint forces to succeed in combat or noncombat operations.

Although the positive implications for enhancing capabilities across the range of military operations seem obvious, we cannot assume that all new concepts will be equally valuable in all operations. In intensive combat, target destruction may be essential in the early engagements of an operation, but extensive physical presence may later be necessary to accomplish the assigned mission. This presence may be required to fully neutralize enemy forces, deal with prisoners and potentially hostile populations, or otherwise assure that success in attacking targets is followed through to achieve overall objectives of operations. For noncombat operations, physical presence will likely be even more important. Thus, we must ensure that capturing new technologies does not overspecialize the force; we must retain balanced and sustainable capabilities.

We recognize that, regardless of how sophisticated technology becomes, the warfighter's judgment, creativity, and adaptability in the face

of highly dynamic situations will be essential to the success of future joint operations. The human element is especially important in situations where we cannot bring technological capabilities fully to bear against opponents who seek to nullify our technological superiority by various means. In these cases, success will depend, as it has historically, on the physical, intellectual, and moral strengths of the individual soldier, sailor, marine, and airman—especially their adaptability in the face of the unexpected.

Critical Considerations. To sustain the Armed Forces and instill these operational concepts will require high quality people—the key ingredient for success. The judgment, creativity, and fortitude of our people will remain the key to success in future joint operations. Turning concepts into capabilities requires adapting leadership, doctrine, education and training, organizations, and ma-

teriel to meet the high tempo, high technology demands posed by these new concepts.

Dedicated, High Quality People. Thus, recruiting and retaining dedicated high quality people will remain our first priority. Only a force that has the courage, stamina, and intellectual ability to cope with the complexity and rapid pace of future joint operations will have the capability to achieve full spectrum dominance.

critical considerations: high quality people, innovative leadership, joint doctrine, joint education and training, agile organizations, and enhanced material

We cannot expect risk-free, push-button style operations in the future. Military operations will continue to demand extraordinary dedication and sacrifice under the most adverse conditions. Some military operations will require close combat on land, at sea, or in the air. The courage and heart of our soldiers, sailors, marines, and airmen will remain the foundation of all that the Armed Forces must do.

Innovative Leadership. The dynamic nature of joint operations in the 21st century battlespace will require a continued emphasis on developing strong leadership skills. While we must do everything possible to leverage the power of advanced technologies, there are inherent limitations. Confronting the inevitable friction and fog of war against a resourceful and strong minded adversary, the human dimension including innovative strategic and operational thinking and strong leadership will be essential to achieve decisive results. Effective leadership provides our greatest hedge against uncertainty.

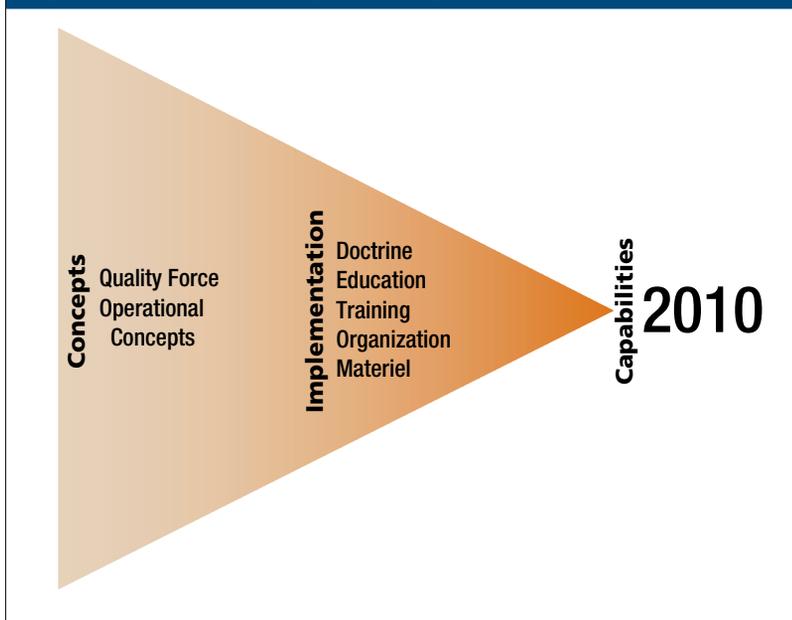
We will build upon the enduring foundation of functional expertise, core values, and high ethical standards. Future leaders at all levels of command must understand the interrelationships among military power, diplomacy, and economic pressure, as well as the role of government agencies and nongovernmental actors, in achieving national security objectives. They will require a sophisticated understanding of historical context and communication skills to succeed in the future. The evolution of command structures, increased pace and scope of operations, and the continuing refinement of force structure and organizations will require leaders with a knowledge of the capabilities of all services. Without sacrificing their basic service competencies, these future leaders must be schooled in joint operations from the beginning of their careers. This leadership development must begin rigorous selection processes and extend beyond formal education and training. Hands-on experience in a variety of progressive assignments must stress innovation, dealing with ambiguity, and a sophisticated understanding of the military art. In short, our leaders must demonstrate the very highest levels of skill and versatility in ever more complex joint and multinational operations.

Joint Doctrine. As we change the way we fight, joint doctrine will remain the foundation that fundamentally shapes the way we think about and train for joint military operations. Joint doctrine is a critical ingredient for success because the way in which leaders think and organize their forces will be as important as the technology we use to conduct future joint operations. Future joint doctrine must articulate the process required for successful joint planning but must be



U.S. Army

Figure 3: From Concepts to Capabilities



flexible enough to serve as a broad framework to guide forces in joint and multinational operations. It is the key to enhanced jointness because it transforms technology, new ideas, and operational concepts into joint capabilities.

We will discover new ways to change the development process for joint doctrine. Thus, we must integrate top-down doctrine throughout the development cycle, while continuing to ensure that joint doctrine fully incorporates the strengths that each service brings to joint warfare.

Education and training programs must prepare joint warriors to meet the challenges of the future battlespace. They must emphasize employing new technologies and achieving operational concepts

joint doctrine serves as a common perspective and fundamentally shapes the way we plan, think, and train for military operations

outlined in this vision. It is essential that joint professional military education (PME) provide warfighters with an understanding of strategic concepts in the future environment where military force will be applied, as well as an in-depth understanding of individual

service systems and how their integration enhances joint operations.

The requirement for high quality, realistic, and stressful training that amplifies education

and fully prepares forces for joint operations is similarly important. We must emphasize integration of joint capabilities and develop skills that increase individual and organizational effectiveness. Our training must reflect emerging threats and include both information saturation and total interruption of information flow.

Enhanced modeling and simulation of the battlespace, when coupled with on the ground evaluation with real soldiers, sailors, marines, and airmen, improve the realism of training, upgrade the levels of day-to-day readiness, and increase opportunities to test innovative concepts and new strategies. Simulations must be interconnected globally—creating a near-real-time interactive simulation superhighway between forces in every theater. Each CINC must be able to tap into this global network and connect forces worldwide that would be available for theater operations. This network will allow selected units in CONUS to train with forces in an overseas theater without actually deploying there. Similarly, we will pursue improvements in campaign modeling and analysis to exploit the concepts of this vision.

This global simulation network must include Reserve and National Guard units, as well as selected multinational partners, to increase their readiness and interoperability.

Agile Organizations. In order to make optimum use of the technologies and operational concepts discussed earlier, we must carefully examine the traditional criteria governing span of control and organizational layers for services, commands, and defense agencies. We will need organizations and processes that are agile enough to exploit emerging technologies and respond to diverse threats and enemy capabilities. As we move forward, we may require further reductions in supervision and centralized direction.

All organizations must become more responsive to contingencies, with less startup time between deployment and employment. Because we rely on the total force to provide the full range of military capabilities, we also require responsive Reserve components that can rapidly integrate into joint organizations.

Increased organizational flexibility will enhance responsiveness. We will seek organizations that can support flexible force packaging and work to smooth the process further.

Enhanced Materiel. Since most of the platforms expected to be in use in 2010 are already designed or operational, we will emphasize high leverage, leading edge technology enhancements to increase capabilities. We will also place greater emphasis on common usage between services and increase interoperability among the services and multinational partners.

We will need a responsive research, development, and acquisition process to incorporate new technology. This process must leverage technology and management innovations originating in the private sector through responsive access to commercial developments.

IMPLEMENTING JOINT VISION 2010

We must proceed with implementing *Joint Vision 2010* in a way that captures the promise of new concepts while sustaining readiness and flexibility through every step of this evolution.

The implementation plan will involve CINCs, services, and joint organizations. Each element must participate in developing and testing these new concepts and their overall integration. Modeling, demonstrations, simulations, technology wargames, and joint exercises will help assess and validate these concepts, as well as assist in developing new operational procedures and organizations.



U.S. Air Force (Marv Lynchard)

The implementation process will integrate ongoing initiatives, such as the Joint Requirements Oversight Council, Joint Warfighting Capabilities Assessments, and Advanced Capabilities Technology Demonstrations (ACTD), to promote the integrated development of operational capabilities. Concurrently, joint education and doctrinal development must keep pace.

As we implement this vision, affordability of the technologies envisioned to achieve full spectrum dominance will be an important consideration. While we anticipate that some significant improvements in capability may be gained economically, for example, by dual-use technologies for C⁴I, others will be more difficult to achieve within budget realities that exist today and will exist into the next century. We anticipate the need to be selective in the technologies we choose, and

thus expect continuing assessment and adjustments for affordability as well as for other lessons learned during the implementation process.

Achieving the full promise of this vision will largely depend on how well we structure our defense program. We will have to make hard choices to achieve the tradeoffs that will bring the best balance, most capability, and greatest interoperability for the least cost. Ultimately, we will have to measure continuously the affordability of achieving full spectrum dominance against the overarching need to maintain the quality of forces, readiness, and force structure needed to execute our operational tasks between now and the year 2010.

As we implement this vision, we must acknowledge that strong leadership, warfighting skill, and innovative thinking will be central to developing the detailed requirements and decision points. Our organizational climate must reward critical thinking, foster a competition of ideas, and reduce structural or cultural barriers to innovation. Both in peacetime and war, the creative talents of our men and women provide us a critical advantage over those who would consider challenging us or our allies.

Our Armed Forces are the world standard for military excellence and joint warfighting. We will further strengthen our military capabilities by taking advantage of improved technology and the vitality and innovation of our people to prepare forces for the 21st century.

Joint Vision 2010 creates the template to guide the transformation of these concepts into joint operational capabilities. It serves as the basis for focusing the strengths of each individual service or component to exploit the full array of available capabilities and allow us to achieve full spectrum dominance. It will also guide the evolution of joint doctrine, education, and training to assure we will be able to achieve more seamless joint operations in the future.

As we pursue this vision, we must remain mindful of our responsibilities: to prevent threats to U.S. interests from emerging, deter those that do, and defeat those threats by military force if deterrence fails. In 2010, we will meet these responsibilities with high quality people and leaders, who are trained and ready for joint operations and able to exploit high technology equipment. Even during a time of unparalleled technological advances we will always rely on the courage, determination, and strength of America's men and women to ensure we are persuasive in peace, decisive in war, and preeminent in any form of conflict.

JFQ

Now on the Internet—

<http://www.dtic.mil/doctrine/jv2010>

POTENTIAL
ADVERSARIES

Joint Vision

TECHNOLOGICAL
ADVANCES

2010:

America's Military—

Preparing for Tomorrow

A Changing World

Decisive
in War

Persuasive
in Peace

INFORMATION
SUPERIORITY

MULTINATIONAL
OPERATIONS

Quality Forces

ENHANCED
JOINTNESS

Dominant Maneuver

Preeminent
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of Conflict